Cedar Breaks Junior Ranger Program
Funded by
Zion Natural History Association

Cedar Breaks National Monument
2390 West Highway 56, Suite 11
Cedar City, UT 84720-4151
(435) 586-9451
www.nps.gov/cebr

Cedar Breaks

National Park Service
U.S. Department of the Interior

Cedar Breaks National Monument

Junior Ranger Activities

EXPERIENCE YOUR AMERICA

So You Want to be a Junior Ranger?

Junior Rangers have a very important job. They help the park by setting a good example for other visitors. To be a Junior Ranger, you need to follow the park rules by staying on the trails, not picking wildflowers, and not feeding wildlife. This protects the park and shows others how to enjoy parks without damaging them. It's also important for Junior Rangers to learn about the park's geology, plants, wildlife, and weather. Once you know more about something you understand better how to take care of it.

Activities

To become a Cedar Breaks Junior Ranger, if you are between the ages of:

5- 7 do 4 activities	8- 9 do 5 activities
10- 12 do 6 activities	**13 and older**, do all activities

Circle your age group above and check off the activities you have completed below.

- ☐ Treasure Hunt Bingo
- ☐ That's the Breaks Crossword
- ☐ Geologist's Notebook
- ☐ Dot- to- Dot Wildflower
- ☐ Wild for Wildlife
- ☐ Spruce, Fir, or Pine?
- ☐ Amazing Bristlecones
- ☐ Weather Wonders
- ☐ Lightning
- ☐ Starry Night
- ☐ If I Were Superintendent
- ☐ Ranger Activities

Junior Ranger Certificate

This certifies that

_____

Has earned the title of

Junior Ranger

at

Cedar Breaks National Monument

_____ Junior Ranger

_____ Officiating Ranger

Congratulations Ranger!

Now that you've completed your activity packet, you're ready to assume your duties as a Junior Ranger. The most important part of your mission is to be a good example to others by knowing and obeying the rules at the parks you visit.

You can also show your badge to your friends at home and tell them what you learned at Cedar Breaks. The last thing you can do is to visit more National Parks and have fun learning what makes each of them special. Remember to ask about Junior Ranger programs whenever you visit a National Park.

Junior Ranger Pledge

I promise:

- ✓ I will have fun exploring the national parks.
- ✓ I will not feed wildlife, pick plants, or disturb any living thing in the national parks.
- ✓ I will be a good example to others and share what I learn both in the national parks and at home.

Treasure Hunt Bingo

For this activity, you will need to keep your eyes and ears open. When you find one of the items listed below, put an "X" on it. When you get five X's in a row (can be side- ways, up and down, or diagonal), you have finished the activity. Be sure to put an X on all that you see or hear. Try to find as many as you can even if they are not in a row.

Arch or Cave	Ground Squirrel	R.V. or  motor-home	Sub-alpine fir tree	Lava rocks
 Someone smiling	Goose-berry bush	Heard a bird call	Chipmunk	 A Bird
Indian Paintbrush	A Piece of litter 	**Park Ranger**	 Cloud	Brian Head Peak
U.S. Flag 	Aspen Tree	Red Rocks	Hoo-Doos	Someone taking a picture 
Deer	Yellow-bellied marmot	 A funny hat	Colorado columbine	Engelmann spruce tree

That's the Breaks

Cedar Breaks became a National Monument because of its beautiful rocks. Learn more about the geology of Cedar Breaks by completing this crossword puzzle. Most of the answers can be found in the visitor center.

Down

1. Water _____ in cracks, breaking the rock apart.
2. Another name for iron oxide.
3. What fossil is sometimes found at Cedar Breaks?
4. The porous, black rocks are from _____ flows.
5. Cliff edges at Cedar Breaks erode one foot every _____ years.
6. What makes some rock layers purple?
7. The sediments that formed these rocks were deposited in a ____ bed.
8. What color does limonite stain a rock?
9. A tall, thin spire of rock is called a _____.
10. Iron oxide turns rocks what color?
11. The opposite of out.

Across

1. A break in the earth's surface along which motion has occurred.
5. A long, thin ridge of rock is called a ____.
12. The kind of rock that forms when particles fall out of air or water into broad, flat layers which then harden over time.
13. Holes in long, thin ridges of rock.
14. The rocks at Cedar Breaks are approximately _____ million years old.
15. The study of rocks.
16. The rocks on top of Brian Head Peak are made of_____.
17. The white cliff near the top of the breaks is made of _____.
18. The process that wears away rock over time.

Ranger Activities

Do **ONE** of the following activities:

(1) Attend a Ranger Program

The Rangers at Cedar Breaks give Geology Talks, Campfire Programs and Guided Walks to help Visitors learn about the National Monument. Attend a Ranger Program and see what you find out!

I attended the following program:_____

Ranger's signature and date:_____

(2) Interview a Park Ranger

Park Rangers have a variety of backgrounds. They are also very friendly people. Find a Ranger at the Visitor Center and interview them. Here are some questions you might want to ask the Ranger you interview:

Where did you go to college?

What did you major in?

Why did you decide to become a Park Ranger?

What other parks have you worked at?

What is your favorite wildflower?

Make up your own question:

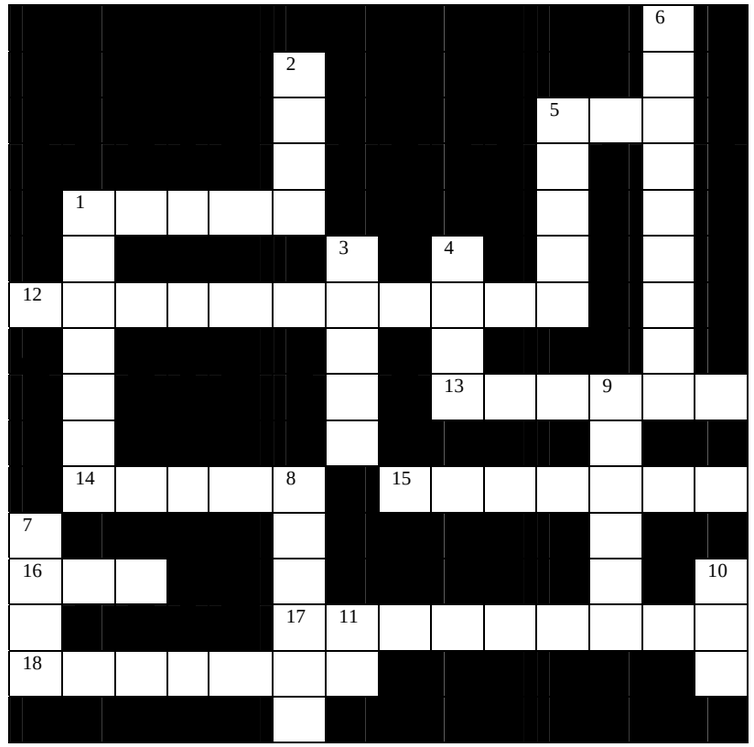
Ranger's Signature and Date:_____

If I Were Superintendent

The mission of the National Park Service is to preserve special places and to help people enjoy them. Managing a national park or monument often involves making difficult or controversial decisions. Choose **one** of the situations below and write what you would do if you were the superintendent of Cedar Breaks:

1. National parks and monuments are often referred to as "outdoor museums." More than 600,000 people come to Cedar Breaks each year. One of the reasons they like to come in the summer is to see the wildflowers blooming in the meadows and forests. Visitors often think the flowers are so pretty that they want to pick them. But if every visitor picked flowers, soon there would be no flowers left. How would *you* stop people from picking flowers?

2. Spruce bark beetles are an insect native to the forest of Cedar Breaks. Because the spruce trees are getting old (over 300 years!) and have been weakened by drought, the beetles can drill into them and lay their eggs without being drowned in sap. Beetle larvae eat the part of the tree that carries water and nutrients to the branches and needles. This kills the tree. Starting in 1993 beetle populations grew and grew and grew; now most of the spruce trees are dead. Many visitors think the trees look ugly. The dead trees are also a fire hazard. But the mission of the National Park Service is to let nature take its course. What would *you* do about all the dead spruce trees?



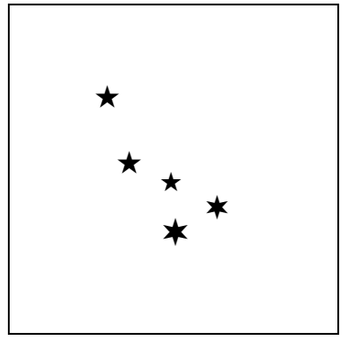
Geologist's Notebook

Geologists carry a small, waterproof notebook with them when they go out to look at rocks and landforms. They draw and take notes about what they see. Drawing helps them remember what they saw,. It also helps them look at geologic formations more carefully and see things that they otherwise might have missed. In your geologist's notebook, draw one of the rock formations you see:

After you've finished drawing, write down what drawing the rocks helped you to notice:

Astronomers like to look at stars in the night sky. Long ago, people would name patterns of stars after their important stories: the Big Bear, the Scorpion, the Swan, Queen Cassiopeia, and many others. This helped the people to remember their stories and important information like seasons and directions. These story- pictures are called "constellations" today.

People from different cultures around the world look at the same star- patterns but give them different names. Below are two constellations. See if you can guess which names different peoples have given to each of them by drawing a line between the name and the constellation.



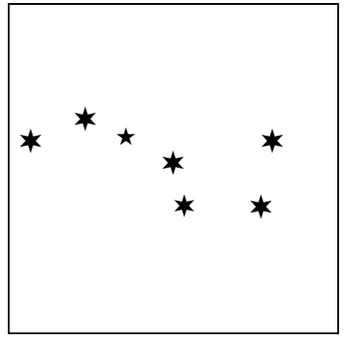
Revolving Male (Diné/ Navajo)

The Plough (Ireland)

La Casserole (France)

Caribou Antler (Finland)

The Big Bear (Ancient Greece)



The Drinking Gourd (African American)

The Cart (Germany)

Revolving Female (Diné / Navajo)

Bighorn Sheep (Paiute)

The Painted Hand (India)

Cassiopeia (Ancient Greece)

Starry Night

A special part of Cedar Breaks is its dark night skies. We can see the Milky Way Galaxy as a fuzzy white band stretching across the sky, and thousands of brighter stars. Why can we see so many stars at Cedar Breaks? There are no more stars here than anywhere else, we are just able to see more of them. Being in the desert above 10,000 feet makes the air very thin and clear here. Cedar Breaks is far from big cities – so it doesn't get much "light pollution" or artificial lighting.

Where do you live?

_____

Find your hometown on the map and then have a parent or a park ranger help you find Cedar Breaks.

The dark places on the map have darker night skies; the bright areas have a lot of city light pollution. Do you think you would see more stars at home or at Cedar Breaks?

_____

If you can, spend a night in a 'dark place' sometime on your trip, to see the sky as full of stars as it would have looked to our ancestors!

Dot-to-Dot Wildflower ID

Cedar Breaks is famous for its wildflowers, which bloom in the meadows and forests in midsummer. Complete the dot- to- dots and use the wildflower guide below to help identify the flowers you drew.


Indian Paintbrush


Columbine


Elkweed


Bluebells

Wild for Wildlife

When the snows melt in late spring, many animals will be seen at Cedar Breaks National Monument. Some birds and animals are only found in the summer months at Cedar Breaks. These animals spend their winters in other places where they can find food and shelter. Some animals stay at Cedar Breaks all year round, even during the long, cold winters. The year- round residents include: yellow- bellied marmots, chipmunks, golden- mantled ground squirrels, porcupines, and weasels.

1. How do animals make it through the long, cold winter? Check ✓ the words below that describe how animals survive winter.

☐ Hibernate
☐ Tell stories
☐ Get a job
☐ Migrate
☐ Store food
☐ Gain weight
☐ Buy groceries
☐ Grow thick fur
☐ Change colors

2. What animals or birds have you seen at Cedar Breaks National Monument?

_____

_____

_____

Being safe in unusual weather also means being prepared for lightning activity. At the Cedar Breaks viewpoints, many times you are the tallest point around. That means you must be very careful during storms. The safest place to be during a storm is in a building. However, sometimes you might be hiking on a trail when a thunderstorm approaches. What should you do?

1. DRAW a LIGHTNING BOLT through the activities below that are DANGEROUS during lightning storms. DRAW a CLOUD around the activities that will keep you SAFE.

Stand in an open field.	Hold a metal pole.
Get inside the car.	Jump in a lake.
Stay at a viewpoint.	Make yourself into a ball.
Crouch low.	Stand under a tall tree.

2. TRUE or FALSE: The earth is struck by lightning an average of 100 times per second.

Weather Wonders



At 10,350 feet (3,155 meters), you will experience different weather than you may be used to. Cedar Breaks can have any type of weather, at any time of year, including heavy hail or even snow in August. The sun can also be more harmful to you because there is less atmosphere to protect you from harmful ultra- violet rays. That is why it is important to be prepared for these "strange" weather conditions.

1. To prepare for different weather conditions, what should you keep in your car? CIRCLE the items below that will HELP you prepare for Cedar Breaks weather?

   Water Ice- Cream Sandals Maps

   Blankets Shorts Sweater Sunblock

   Compass Binoculars Bike Helmet

   Coloring Books Hat Camera

2. Describe the weather outside today (rainy, sunny, windy, cold, warm).
3. What is the current temperature?
4. Copy the 24- hour high temperature _____ and the 24- hour low temperature _____ from the Visitor Center bulletin board.

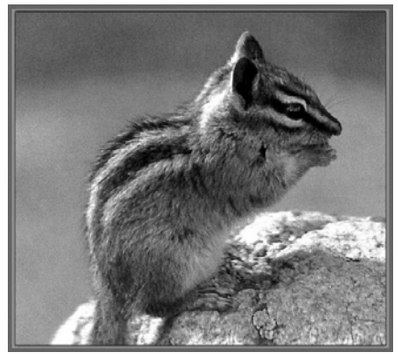
3. Most park visitors have trouble telling the difference between a chipmunk and a golden- mantled ground squirrel. **First**, look at the pictures below and list the differences between the two.

_____

_____

_____

_____




_____ _____

Now use a mammal guide in the Visitor Center or ask a Park Ranger to help you label each picture correctly.

REMEMBER: Keep the *wild* in *wild*life. Please DO NOT FEED any of the chipmunks, squirrels, marmots, birds, or any other wildlife. When animals are fed by humans, they become dependent on people for their food and may starve in the long, cold winter. The animals are WILD, which means they may bite.

Spruce, Fir, or Pine?

The high elevation and cool temperatures of Cedar Breaks are perfect growing conditions for conifers. Conifers trees grow cones and are evergreen, which means they keep their leaves year- round. Conifer leaves are called needles because of their long, thin, pointed shape. Three common conifers at Cedar Breaks are spruces, firs, and pines. A good way to tell them apart is to remember the following words, which start with the same letter as the tree whose needles they describe:

Single, Square, Scaly SPRUCE

Engelmann spruce are common at Cedar Breaks National Monument. The needles of spruce trees grow singly, each from its own spot on the branch. Most spruce needles have a square shape, which you can feel if you roll a needle between your fingers. Besides looking at the needles, you can identify Engelmann spruce by their pinkish, scaly bark.

Flat, Friendly, FIR

Another common tree at Cedar Breaks National Monument is the sub- alpine fir, which has beautiful silver bark. Fir trees have flat needles which do not have a sharp end. Because of their flat needles, fir trees are friendly! It will not hurt to shake the hand of a fir.

Prickly PINE Packets

Two different kinds of pines grow at Cedar Breaks: the limber pine and the bristlecone pine. Pine needles grow in packets, which means that more than one needle grows from the same place on a branch. If you gently push the needles in a packet together, they will form a circle. Pine needles are usually very sharp, and shaking the hand of a pine is a prickly experience.

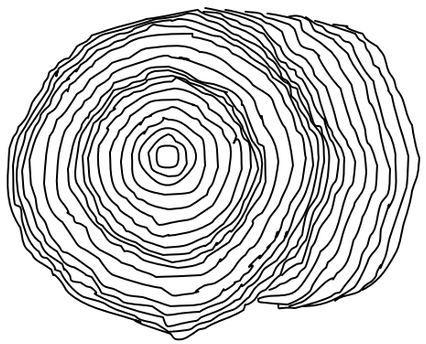
Have a Ranger or a parent sign here when you've proven you can tell the difference between a spruce, a fir, and a pine.

Amazing Bristlecones

Bristlecone pines are the oldest living things on earth—they can live almost 5,000 years old! Scientists learn how old trees are by taking pencil- shaped "core samples" from the living tree and then counting the rings.

In 1978, scientists discovered that the oldest tree on Spectra Point was 1,642 years old. **How old is it this year?** _____

The rings also tell about weather patterns: when a year is dry, the tree doesn't grow much and its rings are thin; in good years, they add fat rings. **Draw arrows to two periods of harsh weather on the cross-section below:**



When bristlecone trees are young, they add circular rings around their center stem. But if the roots on one side of the tree erode out of the ground, the main stem of the tree will die, while the branches on the other side to continue growing. When this happens, the bristlecone adds half- circle rings on the living side of the tree. **How old was this bristlecone when the original stem died?**

_____